

REMARKS

The Examiner's attention to the present application is noted with appreciation. The Examiner states that the Preliminary Amendment has been entered and that the present office action addresses the claims as amended. However, the Preliminary Amendment as filed on February 7, 2003 contains 20 claims, not 9. Claim 10 is an apparatus claim dependent on claims 9 and 1. Claims 11 to 20 are method claims generally corresponding to the apparatus claims. Applicant assumes that claims 10-20 have been rejected similarly to claim 1; however, it is requested that the next office action address claims 10-20.

It is noted with appreciation that claims 5 and 6 are indicated as containing allowable subject matter. However, for the reasons set forth herein, it is submitted that all claims as amended are allowable.

Claim 1 has been amended to in response to the objection of the Examiner.

The Examiner rejected claims 1 and 7-9 under U.S.C. 102(a) as being anticipated by Thaler. Such rejection is respectfully traversed. Contrary to the Examiner's assertions, Thaler does not disclose collimating means for controlling the direction of flight the particles. The laser (element 20) does not collimate the particles; it serves to heat both them and the substrate. The laser beam is focused, not to collimate the particles, but to limit the global heating of the substrate (column 7, lines 41-50). Further, when the laser is sufficiently focused to propel the particles (column 8, lines 42-60), it cannot collimate the particles. Similarly, the tube (element 35) disclosed by Thaler serves solely to inject a carrier gas to propel the particles to the substrate. This carrier gas does not collimate the particles, but merely propels them to the substrate. Neither the laser nor the carrier gas of Thaler has the ability to collimate, i.e. limit or otherwise control, the direction of the particles.

Further, Thaler actually teaches against the present invention because the implied purpose of Thaler is to coat the entire surface of a substrate (column 1, lines 16-33). In contrast, the purpose of the present invention is primarily to collimate particles to mesoscale dimensions and deposit them in any desired pattern, with small feature sizes, onto a substrate (see, for example, page 28, lines 15-17). The invention of Thaler would benefit from as widely dispersed a particle stream as possible, in order to rapidly coat a large surface area of the substrate.

There is nothing disclosed by Thaler which anticipates, or makes obvious, collimating means for particles being deposited on a substrate. Thus the Examiner's rejection of claims 2-4 under U.S.C. 103(a) as being unpatentable over Thaler in view of Ogren et al. is also respectfully traversed, since Ogren et al. is cited solely for their disclosure of a virtual impactor.

If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned attorney for Applicant at the telephone number listed below.

Being filed herewith is a Petition for Extension of Time to June 21, 2004, which is the first business day after June 20, 2004, with the appropriate fee, as well as a Supplemental Information Disclosure Statement Under 37 CFR § 1.97(c), with the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213. A duplicate of the Petition and Supplemental Information Disclosure papers are enclosed for accounting purposes.

Respectfully submitted,

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